

From: [Thiesing, Mary](#)
To: [Pongkhamsing, Chan](#)
Cc: [Owens, Kim](#)
Subject: Re: Final Memos for 2015 Planting Revisions & Post-Construction Hydrology - UCCMS
Date: Friday, November 06, 2015 1:14:45 PM
Attachments: [image001.png](#)

Chan,

I am having some issues with my laptop and so am using a different computer until IRU can diagnose what the problem is. For that reason, I am responding via webmail on this but will be happy to provide findings in a formal memo next week, if you prefer.

On Wednesday, October 28, members of EPA Region 10 Aquatic Resources Unit (ARU), along with an attorney, met with staff from the Port of Tacoma (Port) to discuss adaptive management measures the Port has implemented or proposes to implement on its Upper Clean Creek mitigation site (UCC). A portion of that site was dedicated as mitigation for a violation of section 404 of the Clean Water Act. The terms for resolution of this violation, including the dedication of the approximately 7.56 acres of wetlands and 3,400 feet of re-contoured stream channel at the UCC site as compensatory mitigation for the temporal and permanent loss of wetlands associated with the violation, are set forth in a Judicial Consent Decree No. 11-cv-05253-RJB (CD). In addition, the remainder of the site not covered by the CD (bank) has been proposed by the Port as advance mitigation for other impacts to waters of the United States which may in the future be permitted by the U.S. Army Corps of Engineers(Corps) and the Washington Department of Ecology (Ecology).

Prior to the meeting, the Port provided us two specific memos discussing proposed Planting Revisions (planting memo) and identifying differences in Post-Construction Hydrology (hydrology memo) at the UCC site. The hydrology memo provided data and information which indicated that the site, due to a downstream grade control, and an unusually dense bloom of *Elodea canadensis* during the unusually hot and dry summer of 2015, experienced prolonged water levels that were a foot higher than had been previously predicted. While the bloom may have been an unusual event, the Port was proposing to change the mix of plant species to respond to the potentially wetter conditions at the site, to maximize successful vegetation establishment and performance. In addition, due to either scarcity or unavailability of certain potted plant species, other wetland plant species were proposed in the planting memo as replacements. Both memos proposed adaptive management measures to ensure success of the site, for which final grading was completed in late 2014, and seeding of bare areas occurred immediately following.

The meeting on October 28, which included the aforementioned representatives from EPA, also included the members of the Washington mitigation bank Interagency Review Team (IRT), who are responsible for agency oversight of the bank. A copy of the attendance sheet was

provided for the record; the agencies represented include the Port of Tacoma, EPA, the Corps, the National Marine Fisheries Service, the U.S. Fish & Wildlife Service, and Ecology. The Port was present with all of the consultants who have worked or are working on the UCC site, and provided a detailed presentation on the site's design goals, the work completed to date, the analysis of unexpectedly high water levels, including field investigation results and revised modelling results using HEC-RAS, and identified the rationale for each of the changes proposed. The IRT members and also members of ARU responsible for ensuring compliance with the CD questioned the Port on various points of information and provided views and advice to the Port throughout the day. Following the meeting, EPA staff, the IRT, and members of the Port and their consultants adjourned to the UCC site for a field visit.

The following observations I am providing were generally concurred by some of the members of the IRT; however, the IRT may have its own comments and these comments are not intended in any way to supersede or eliminate any comments or recommendations they may have. The observations I am providing are pertinent to the EPA Settlement Area identified by the maps attached as part of the CD.

1. Site Progress. The site appears to be developing well; the grading and placement of woody debris and wood structures appear to be consistent with the plan. The areas which were seeded seem to be vegetating well, and the preservation and re-planting of large trees appears to have resulted in successful establishment of large structure. There is an area where existing peat appears to have had a

viable seed bank and which is re-vegetating with a mix of native species. This area should continue to be monitored to avoid re-invasion of reed canary grass, which had formed a monoculture over much of the site prior to implementation of the mitigation plan. In addition, there are areas near the EPA Settlement Area which have cattail establishing, in some small areas, rather densely. Due to lack of flowering heads, I was unable to determine whether these were *Typha latifolia* (native), *Typha angustifolia* (non-native) or *Typha X glauca*, which is a hybrid of the two and highly invasive. These areas should also be carefully monitored to ensure that any invasive stands of cattail do not establish.

The container plants which were planted during 2015 were irrigated during the unusually hot, dry summer; as a result, they are growing well and appear largely to be healthy and establishing as proposed. The exception to this were the plantings of lady fern, *Athyrium filix-femina*, which appeared burned, likely due to exposure to full sun. This is a shade-loving fern, and the Port has proposed relocating those plantings to areas which currently have shade. I concur with the Port's findings, and their proposed solution.

2. Hydrology and adjustment of zones The hydrology which was modeled for the site, and on which the water elevations developed for the proposed wetland and floodplain zones, was

determined in 2015 to be approximately 1 foot higher, possibly due to a large area of *Elodea canadensis* which became so dense that it covered the entire channel and restricted water flow downstream of the site, resulting in a backwater on site which persisted much longer than the original design intended. The Port, with its consultants, has re-delineated the different zones of the UCC site to identify where wetter conditions are likely to occur if the bloom conditions recur. The Port has also proposed adjusting plantings to incorporate species with higher wetness tolerance in those expanded wet zones.

The issue with such changes is that if the bloom of *E. canadensis* is not a recurring event, those areas may well be drier and closer to the original design conditions than the current model indicates. As such, there could be a risk of plant species dying off without longer duration flooding. The Port acknowledged this point, but indicated that the species it proposes for the wetter zones would comprise species with a wide wetness tolerance, and would also comprise mix of species with difference tolerances for wetness, in order to ensure that the community would be resilient to changing hydrologic conditions. This seems to be a reasonable way to address the uncertainty inherent with the possibility of the fluctuating summer water levels, and maximize the opportunity for successful vegetative cover establishment.

3. Replacement/substitution of plant species

A number of plant species were unavailable either as seeds or as container plants due to poor success generally among the nurseries in the prior growing season and/or inability to secure contract growers for those species in question to ensure delivery in a timely fashion. The following substitutions have been proposed:

Beaked sedge (*Carex utricularis*) replaced by Kellog's sedge (*Carex lenticularis*)
Pacific blackberry (*Rubus ursinus*) with sword fern (*Polystichum munitum*)

The substitution of Kellog's sedge is unlikely to have any adverse effect on the plant community targets and goals, since *C. lenticularis* is native to the Pacific trough and is found throughout the region as a native component of emergent wetlands. However, sword fern, which is also native, is unlikely to serve the same purpose as the plant which it is proposed to replace, viz., Pacific blackberry. Sword fern is resilient and a common component of upland forest buffers in the Pacific northwest; however, it is less resilient to invasion and would not provide food sources for wildlife in the way that Pacific blackberry does. The Port has been diligent about locating additional Pacific blackberry plants; however, if a substitution is needed, I would recommend using another food-producing plant such as salmonberry or thimbleberry which may be more readily available and, while not of the same trailing habit, would still serve similar purposes as Pacific blackberry on the landscape.

The IRT may have a number of additional suggestions or other suggestions, and I would ask

that they be copied on this email, to ensure appropriate coordination and minimize duplication of effort. In general, the Port has done an excellent job managing the site, and with the exceptions noted above, I concur with their analyses and proposed changes.

From: Pongkhamsing, Chan
Sent: Thursday, November 5, 2015 1:18 PM
To: Thiesing, Mary
Cc: Owens, Kim
Subject: FW: Final Memos for 2015 Planting Revisions & Post-Construction Hydrology - UCCMS

Mary Anne,
Provide me your feedback on these proposals and I'll get it to PoT. If you don't have time for a memo, I think a quick email with your concerns/suggestions will suffice.

Respectfully,



Chan Pongkhamsing
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Subject: Final Memos for 2015 Planting Revisions & Post-Construction Hydrology - UCCMS

All,

Attached are the final memos that we presented at last week's meeting. The only change was removing "draft" from the memos as there was no substantial comments on the memo content itself.

For those that haven't done so already, please send a quick email or a letter approving the Port to proceed with construction (planting) based on these memos.

Thanks in advance,
Mark

All e-mail communications with the Port of Tacoma are subject to disclosure under the Public Records Act and should be presumed to be public.